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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,411	12/21/2001	Mark Gibson	476-2081	5669
23644	7590	09/09/2005	EXAMINER	
BARNES & THORNBURG P.O. BOX 2786 CHICAGO, IL 60690-2786			BHATIA, NEERAJ R	
			ART UNIT	PAPER NUMBER
			2661	
DATE MAILED: 09/09/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/032,411

Applicant(s)

GIBSON ET AL.

Examiner

Neeraj Bhatia

Art Unit

2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to because in Figure 2, under Label mapping, j should have an arrow pointing to 22x not 23x and k should have an arrow pointing to 22y not 23y. Figure 3 has a router labeled twice, once as B and once as 33S in autonomous system 31c. Also, in Figure 5, in autonomous system 51b, D, E, and F should be labeled 53 D, 53E, and 53 F. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities: in paragraph 5 on page 6 of the specification, the applicant discloses a border router 33U in autonomous system 31c. This border router does not appear in the drawings.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 1-9 and 11-13 are rejected under 35 U.S.C. 102(a) as being anticipated by Rekhter.

With regards to claims 1,2, and 3, Rekhter, in Patent No. 6,463,061, discloses a method of routing an information packet D1 (fig1) between two autonomous systems comprising of CE1 and CE2 that have EGBP (exterior gateway border protocol) connections to PE1 and PE2 (column 13 lines 3-14) respectively. As described in column 6 line 3 to column 7 line 25 of the Detailed Description, Rekhter discloses two tags, T2 and T3. Border router PE2 (Figure 1) sends a packet coming from CE2 to P2 containing tags T2 and T3. T2 is a tag that P2 has arranged to have PE2 attach to packets that should follow routes in which PE1 is the egress router. P2 therefore sends this packet to P1. P1 replaces T2 with T1, which P1 has asked its neighbors to attach to any packets that should be send through PE1 egress routes. From T3, the tag PE1

has arranged with its neighbor routers to use if the packet is being forwarded through PE1 to CE1, PE1 knows it should forward the packet to edge router CE1.

Regarding claim 4, Rekhter discloses in column 5 lines 50-60, in an internal routing field added by PE2, two constituent fields, namely an egress-router field and an egress-channel field. The egress-router field takes the form of a tag that P2 can map to the egress edge router PE1. The egress-channel field takes the form of a tag that PE1 can interpret as specifying its interface with CE1.

Regarding claim 5, Rosen states that when tag switching is used, the forwarding table (FIB talked about in column 7 line 42 to column 8 line 37 of the Detailed Description) maps the address prefix to an ordered pair, whose first element is a next-hop IP address (column 8 lines 61-67 of the Detailed Description).

With regard to claim 6, column 4 lines 9-29 in the Summary of invention discloses that a provider edge router linked to a given customer's edge router will ordinarily relay reachability information concerning customer sites from that router only to provider edge routers similarly linked to other edge routers of the same customer, to which they will in turn forward the reachability information. Rekhter gives an example (column 15 line 66 to column 16 line 7 of the Detailed Description) stating if CE1 was to tell PE1 which hosts are reachable at its site, it must use an external routing protocol, which is assumed to be BGP (border gateway protocol).

With respect to claim 7, figure 4's second row depicts the format of the BGP "Update" message CE1 uses to share routing information. The message ends with a list of interface address prefixes referred to as NLRI.

Regarding claim 8, Rekhter describes (column 17 lines 22-54 of the Detailed Description) how PE1 can distinguish between different routes to the same destination by prepending a different VPN (virtual private network) identifier in the BGP message to each route, thus modifying the egress tag of the border router PE1 to provide a cross-connect function.

With respect to claim 9, Rekhter discloses in column 26 line 61 to column 27 line 23 of the Detailed Description that the PE routers need not in general be fully meshed which ensures communication between any two points, but if PE router A and PE router B attach to CE routers in the same VPN, thus enabling multiple diversion routes, router A needs to talk IBGP to router B. Rekhter also discloses that each PE router, before distributing a route, will also assign a tag for that route, which will be encoded in a way to be defined, as an attribute of that route. This process enables multiple diversion route storage.

Regarding claims 11 and 12, Rekhter discloses that the router circuitry for performing functions described below (the functions provided by Rekhter's invention) will be provided as communications hardware operated by one or more processors software-configured to perform the described operations (column 7 lines 26-41 of the Detailed Description).

As to claim 13, in column 16 line 43-55 of the Detailed Description Rekhter describes what an autonomous system, AS, is, and states that CE1, CE2 and the PE routers each have an AS, which communicate with one another. As described above when regarding claims 1 and 2, Rekhter discloses that this network routes information

packets from a source in one autonomous system via a first tag, to a destination in a second autonomous system via first and second border routers at an interface between the two autonomous systems, wherein the communications network employs a BGP in which the tag identifies both a forwarding interface and behavior to provide a mapping from one tag on to a second tag to the destination.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rekhter in view of Bays. Rekhter includes a method of routing an information packet as stated above. Rekhter does not include selection of routes from the stored multiple diversion routes to provide load balancing. However, Bays (Pub No. US 2002/0141343) discloses a load balancing process involving BGP (paragraph 47 of the Detailed Description) in order to select the routes in which to use to meet various requirements. It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Rekhter a selection of routes from the stored multiple diversion routes to provide load balancing in order to select different routes to meet various routing requirements.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ors (Pat No. 6,731,639) discloses a communication system comprising of a plurality of autonomous systems (column 5 line 50) and a label switch router (5 in fig 4A). Leinwand (Pub No. US 2005/0100027) discloses in figure 1 a portion of the Internet that can be used for transferring data packets between different locations such as the source 11 and the destination 34. The Internet 10 includes a plurality of autonomous systems 12,20,22,26,28, and 32, which are interconnected. Leinwand also discloses the use of BGP. Brown (Pat No. 6,870,841) discloses in figure 3, two independent networks 310 and 320 with edge routers 311,312,314,321, and 322, which communicate with one another.

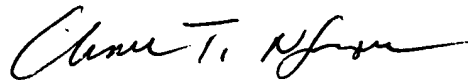
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Neeraj Bhatia whose telephone number is (571)272-5204. The examiner can normally be reached on Monday through Friday: 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (571)272-3126. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2661

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NB



CHAU NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600